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10/034,036	12/20/2001	Kevin Warbrick	476-2080	9480

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EXAMINER	
LEUNG, CHRISTINA Y	
ART UNIT	PAPER NUMBER
2633	

DATE MAILED: 09/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/034,036	WARBRICK, KEVIN	
	Examiner	Art Unit	
	Christina Y. Leung	2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 December 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1-5,13,16,20 and 22* is/are allowed.

6)☒ Claim(s) *6-12,14,15,17-19,21 and 23-28* is/are rejected.

7)☒ Claim(s) *9-12,15,24 and 27* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 December 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to because Figure 2 shows a diagram with shaded boxes that appear to contain text but are currently illegible. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claims 9-12, 15, 24, and 27 are objected to because of the following informalities:

Claims 9, 11, 12 and 15 each recite "the first threshold level," but claims 6 and 14 (on which the claims variously depend) previously recite a "first predetermined optical performance level." Examiner respectfully suggests that Applicants change the phrase in claims 9, 11, 12, and 15 so that the terminology is consistent between parent and dependent claims.

Similarly, claim 10 recites "a second threshold level," but claim 6 on which claim 10 depends previously recites a "first predetermined optical performance level." Examiner respectfully suggests that Applicants change the phrase in claim 10 so that the terminology is consistent between parent and dependent claims

Claim 24 recites "the alarm being triggered occurred" (sic) in the last line of the claim. Examiner respectfully suggests that Applicants amend this phrase for grammatical reasons.

Claim 27 recites "to provide monitor said optical layer network" (sic) in lines 2 and 3 of the claim. Examiner respectfully suggests that Applicants amend this phrase for grammatical reasons.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 17-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Independent claims 17 and 18 each recite "An optical alarm signal...generated by the performance of a method of indicating...wherein the method of indicating comprises" various method steps recited in the claim. Claims 17 and 18 (and claim 19, which depends on claim 18) are indefinite because it is unclear whether the claims recite an apparatus or a method. Examiner respectfully suggests that Applicant amends the claims to properly recite a method in accordance with current U.S. Patent Office practice.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 6-9, 12, 14, 15, 17, 18, 21, and 24-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Sugawara (US 6,718,138 B1).

Regarding claim 6, Sugawara discloses a method of indicating to network control when degradation in the performance in an optical layer of a communications network has occurred prior to the performance in any higher layers of the communications network being substantially adversely affected, the method comprising the steps of:

monitoring the optical performance of an optical signal transmitted within the optical layer of the network using a proxy to determine an optical performance characteristic which corresponds to the transmission quality of electronic signals extracted from the optical layer signal (column 13, lines 6-29; column 14, lines 27-42);

generating a first alarm in the event that the optical performance falls below a first predetermined optical performance level to alert the network control of the network that the first predetermined optical performance level has been exceeded (column 14, lines 5-16 and lines 27-42).

Examiner notes that Sugawara discloses that the a proxy to determine an optical performance characteristic which corresponds to the transmission quality of electronic signals

extracted from the optical layer signal is the monitoring of a Q value, for example (column 13, lines 15-18 and lines 25-29).

Regarding claims 7 and 8, Sugawara discloses that the network control comprises a network operator or an autonomous network controller (column 14, lines 9-16).

Regarding claim 9, Sugawara discloses that the method further comprises the network control provisioning optical protection in the event the monitored optical performance falls below the first threshold level (column 13, lines 18-23; column 14, lines 9-16).

Regarding claim 12, Sugawara discloses that the method further comprises the network control provisioning optical protection in the event the monitored optical performance falls below the first threshold level, wherein the optical protection provides local link protection (column 13, lines 18-23).

Regarding claim 14, Sugawara discloses an apparatus for use in a communications network, the apparatus capable of implementing a method of indicating to network control when degradation in the performance in an optical layer of the communications network has occurred prior to the performance in any higher layers of the communications network being substantially adversely affected, the apparatus comprising:

a monitor (quality monitoring circuit 114) arranged to monitor the optical performance of an optical signal transmitted within the optical layer of the network using a proxy to determine an optical performance characteristic which corresponds to the transmission quality of electronic signals extracted from the optical layer signal (column 13, lines 6-29; column 14, lines 27-42);

an alarm generator (abnormality detector 115) arranged to generate a first alarm in the event that the optical performance falls below a first predetermined optical performance level to

alert the network control of the network that the first predetermined optical performance level has been exceeded (column 14, lines 5-16 and lines 27-42).

Examiner notes that Sugawara discloses that the a proxy to determine an optical performance characteristic which corresponds to the transmission quality of electronic signals extracted from the optical layer signal is the monitoring of a Q value, for example (column 13, lines 15-18 and lines 25-29).

Regarding claim 15, Sugawara discloses provisioning means for the network control to provision optical protection in the event the monitored optical performance falls below the first threshold level (using switch 103 as shown in Figure 10, for example; column 13, lines 18-23).

Regarding claim 17, as well as the claim may be understood with respect to 35 U.S.C. 112, discussed above, Sugawara discloses an optical alarm signal indicating that an optical parameter in an optical network has fallen below a first predetermined level and a method of indicating to network control when degradation in the performance in an optical layer of a communications network has occurred prior to the performance in any higher layers of the communications network being substantially adversely affected, wherein the method of indicating comprises the steps of:

monitoring the optical performance of an optical signal transmitted within the optical layer of a network using a proxy to determine an optical performance characteristic which corresponds to the transmission quality of electronic signals extracted from the optical layer signal (column 13, lines 6-29; column 14, lines 27-42); and

generating the alarm in the event that the optical performance falls below a first predetermined optical performance level to alert the network control of the network that the first

predetermined optical performance level has been exceed (column 14, lines 5-16 and lines 27-42).

Examiner notes that Sugawara discloses that the a proxy to determine an optical performance characteristic which corresponds to the transmission quality of electronic signals extracted from the optical layer signal is the monitoring of a Q value, for example (column 13, lines 15-18 and lines 25-29).

Regarding claim 18, as well as the claim may be understood with respect to 35 U.S.C. 112, discussed above, Sugawara discloses an optical alarm signal indicating that an optical parameter in an optical network has fallen below a second predetermined level and a method of indicating to network control when degradation in the performance in an optical layer of a communications network has occurred prior to the performance in any higher layers of the communications network being substantially adversely affected, wherein the method of indicating comprises the steps of:

monitoring the optical performance of an optical signal transmitted within the optical layer of a network using a proxy to determine an optical performance characteristic which corresponds to the transmission quality of electronic signals extracted from the optical layer signal (column 13, lines 6-29; column 14, lines 27-42); and

generating the alarm in the event that the optical performance falls below a predetermined optical performance level to alert the network control of the network that the predetermined optical performance level has been exceed and to trigger an optical protection event (column 13, lines 18-23; column 14, lines 5-16 and lines 27-42).

Examiner respectfully notes that claim 18, which is an independent claim, does not recite a "first" predetermined level to provide a context for the "second" level. Therefore a "second" predetermined level as recited in claim 18 may comprise any predetermined level such as disclosed by Sugawara.

Regarding claim 21, Sugawara discloses a communications network in which the optical layer is provided with means to implement a method of indicating to network control when degradation in the performance in an optical layer of a communications network has occurred prior to the performance in any higher layers of the communications network being substantially adversely affected, the optical layer of the network comprising:

an optical performance monitor (quality monitoring circuit 114) arranged to monitor the optical performance of an optical signal transmitted within the optical layer of a network using a proxy to determine an optical performance characteristic which corresponds to the transmission quality of electronic signals extracted from the optical layer signal (column 13, lines 6-29; column 14, lines 27-42); and

an alarm generator (abnormality detector 115) arranged to generate a first alarm in the event that the optical performance falls below a first predetermined optical performance level to alert the network control of the network that the first predetermined optical performance level has been exceeded (column 14, lines 5-16 and lines 27-42).

Examiner notes that Sugawara discloses that the a proxy to determine an optical performance characteristic which corresponds to the transmission quality of electronic signals extracted from the optical layer signal is the monitoring of a Q value, for example (column 13, lines 15-18 and lines 25-29).

Regarding claim 24, Sugawara discloses an indicator for indicating to the network control of a communication network degradation in at least one performance characteristic of any optical layer signal propagating in an optical layer of a communications network, the indication being provided to the network control prior to a performance characteristic in any higher layers of the communications network being substantially adversely affected, the indicator comprising:

an alarm signal (abnormality detection signal outputted from abnormality detector 115 as shown in Figure 13, for example) triggered in the event that the performance characteristic falls below a predetermined performance level in the optical layer (column 14, lines 5-16 and lines 27-42),

wherein the predetermined performance characteristic is determined from an optical signal transmitted within the optical layer of a network using a proxy for the transmission quality of electronic signals extracted from the optical layer signal (column 13, lines 15-29),

to alert the network control of the network that the predetermined optical performance level has been exceeded and that protection has been provisioned (column 14, lines 9-16).

Examiner notes that Sugawara discloses that the a proxy to determine an optical performance characteristic which corresponds to the transmission quality of electronic signals extracted from the optical layer signal is the monitoring of a Q value, for example (column 13, lines 15-18 and lines 25-29).

Regarding claims 25 and 26, Sugawara discloses that the protection event comprises the provisioning of a protection channel and a roll-over of the optical signal to a protection channel (column 13, lines 18-23).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sugawara in view of Zhuo et al. (US 2003/0016410 A1).

Regarding claim 11, Sugawara discloses a method as discussed above with regard to claim 6, including the network control provisioning optical protection in the event the monitored optical performance falls below the first threshold level (column 13, lines 18-23; column 14, lines 9-16). Sugawara does not specifically disclose that the optical protection provides end-to-end path protection.

However, Zhuo et al. teach a system that is related to the one disclosed by Sugawara including monitoring the performance of an optical signal in a network and provisioning optical protection in the event that the performance falls below a threshold level (pages 1-2, paragraph [0013]). Zhuo et al. further teach that the optical protection provides end-to-end path protection (page 2, paragraph [0016]). It would have been obvious to a person of ordinary skill in the art to provide end-to-end path protection as suggested by Zhuo et al. in the method disclosed by Sugawara in order to more effectively provide a protection path across a larger network having many interconnected nodes.

9. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sugawara in view of Nakajima et al. (US 6,522,803 B1).

Regarding claim 23, Sugawara discloses a method as discussed above with regard to claim 6, including a monitoring step, but does not specifically disclose that the monitoring is performed whenever a new channel is injected into the optical layer of the communications network. However, it is well understood in the art that the addition of new channels to an existing system has the potential to affect the performance of the channels, as Nakajima et al. particularly teach (column 1, lines 31-40). It would have been obvious to a person of ordinary skill in the art to perform monitoring as already disclosed by Sugawara whenever a new channel is injected in order to evaluate the effects of adding a new channel as suggested by Nakajima et al., and thereby ensure that the system responds to any performance changes as soon as possible.

10. Claims 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugawara in view of Walsh (US 5,825,516 A).

Regarding claims 27 and 28, Sugawara discloses a system as discussed above with regard to claim 24 and discloses that the alarm signal (i.e., the abnormality detection signal) informs a supervisor of an abnormal situation, but Sugawara does not specifically disclose that the alarm is a visual or audio signal. However, it is well known in the art that alarms designed to alert a supervisor as already disclosed by Sugawara commonly comprise visual or audible alerts. In particular, Walsh teaches a system that is related to the one disclosed by Sugawara, including monitoring an optical communications system and providing an alarm signal in the event of an abnormal situation (Figure 3). Walsh further teaches that such an alarm may be a visual or audio alarm (column 8, lines 3-9). It would have been obvious to a person of ordinary skill in the art to specifically have a visual or audio alarm as suggested by Walsh as the alarm in the system

disclosed by Sugawara in order to effectively attract the attention of a network operator as already disclosed.

Allowable Subject Matter

11. Claim 10 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and in such a way as to correct the claim objection discussed above.

12. Claim 19 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

13. Claims 1-5, 13, 16, 20, and 22 are allowed.

14. The following is a statement of reasons for the indication of allowable subject matter: The prior art, including Sugawara, does not specifically disclose or fairly suggest a system including the particular combination of all the elements, steps, and limitations recited by claims 1-5, 10, 13, 16, 19, 20, and 22 (and including all the limitations of any parent claims on which they may depend; and as well as claim 19 may be understood with respect to 35 U.S.C. 112 discussed above), particularly wherein the system provisions optical protection when monitored optical performance falls below a first threshold level and triggers optical protection when the monitored optical performance falls further to below a second threshold level and wherein the monitoring is performance within the optical layer by using a proxy to determine an optical performance characteristic.

Conclusion

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christina Y. Leung whose telephone number is 571-272-3023. The examiner can normally be reached on Monday to Friday, 6:30 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 571-272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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